

REMARKS

Prior to the present amendment, claims 1-9, 15, and 16 were pending. In this amendment, claims 1 and 8 have been amended; new claims 17-19 have been added, and claim 9 has been cancelled. Accordingly, claims 1-8 and 15-19 are under examination.

Claim 1 was amended to add “consisting of” language and to incorporate the features of claim 9. New claims 17 and 19 specify that the azo-initiator is “in the form of powder, crystals, granules, or combinations thereof.” Support for claims 17 and 19 is found in the specification as filed on page 8, lines 21-22 and claim 1 as originally filed. Support for new claim 18 is found in claim 8 as originally filed.

Accordingly, no new matter has been entered by the amendment of the claims.

The examiner objected to claim 7 as being of improper dependent form; claims 1-9, 15, and 16 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement; and claims 1-9, 15, and 16 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,902,596 to McVay (“McVay”) in view of European Patent Publication No. EP 0 668 098 A1 to Amo, et al. (“Amo, et al.”) and U.S. Patent Publication No. 2003/0108705 A1 to Duffield, et al. (“Duffield, et al.”).

CLAIM OBJECTION

The examiner objected to claim 7 as allegedly being of improper dependent form under 37 C.F.R. 1.75(c). The examiner states that claim 6 includes salts of an azo-initiator while the dependent claim 7 includes azo-initiators that are not salts.

Applicant is confused as to why claim 7 was rejected. Claim 7 depends from independent claim 1, not claim 6. Claim 1 includes azo-initiators that are salts and that are not salts. Therefore, the rejection of claim 7 under 37 C.F.R. 1.75(c) should be withdrawn.

REJECTION UNDER 35 USC § 112

Claims 1-9, 15, and 16 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The examiner rejected the previously filed amendment to claim 1 by stating “there is no support for the limitation that a liquid vehicle is not required in the originally filed disclosure.” The examiner further stated that claims 2-9, 15, and 16 were subsumed by the rejection because of their dependence on claim 1.

In the present amendment, applicant has deleted the “liquid vehicle is not required” language in claim 1. Therefore, the 35 U.S.C. 112, first paragraph, rejection has been rendered moot.

REJECTION UNDER 35 USC § 103

Claims 1-9, 15, and 16 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,902,596 to McVay in view of European Patent Publication No. EP 0 668 098 A1 to Amo, et al. and U.S. Patent Publication No. 2003/0108705 A1 to Duffield, et al. The examiner contends that McVay discloses a package containing materials to be added to a resin formulation such as catalysts in an additive package. The examiner concedes that McVay is silent with respect to azo-initiator; water-soluble container/package and container including at least one component selected from anti-foaming agent or diluent; amount of initiator in the container; and handling of the polymerization initiator system.

The examiner relies upon Amo, et al. for allegedly disclosing that water-soluble azo-compounds have skin irritant action and spherical granules of water-soluble azo compounds, which cause no dust, and are prepared in view of safety. The examiner further relies upon Duffield, et al. for allegedly disclosing water-soluble containers made of an injection molded polymer.

McVay teaches away from the claimed invention

McVay is directed towards an additive package for holding explosively decomposable polymerization initiator catalysts such as azo catalysts. McVay characterizes azo catalysts as being “sensitive catalysts” that require suspension in a liquid vehicle to stabilize the sensitive catalyst and reduce the explosion hazard. See col. 2, lines 46-59 and col. 3, lines 5-9 of McVay. Liquid vehicles disclosed by McVay include mineral oil, castor oil, menharden oil, coconut oil, and soybean oil. See col. 3, lines 61-67 of McVay. McVay does not disclose a water-soluble container, an azo-initiator, water-soluble anti-foaming agents, or water-soluble diluent materials.

The requirement in McVay of a liquid vehicle for stabilization teaches away from the present invention which does not require a liquid vehicle. In particular, the main independent claim has been amended so that the water-soluble container “consists of” (1) a water-soluble azo-initiator or (2) a water-soluble azo-initiator and at least one component selected from the group consisting of water-soluble anti-foaming agents and water-soluble diluent materials. Therefore, a liquid vehicle for stabilization is excluded as being a component in the water-soluble container of claim 1.

Accordingly, claim 1 and its dependent claims, *i.e.*, claims 1-8 and 15-18, are patentable over Mc Vay in view of Amo, et al. and Duffield, et al.

Furthermore, new independent claim 19 states that the azo-initiator is in the form of a powder, crystals, granules, or combinations thereof. The requirement of claim 19 that the azo-initiator is in solid form, *e.g.*, powder, crystals, and granules, excludes the possibility of the azo-initiator being suspended in a liquid stabilizer. Therefore, claim 19 is patentable over McVay in view of Amo, et al. and Duffield, et al.

Amo, et al. and Duffield, et al. do not make up for deficiencies of McVay

The secondary references in the 35 U.S.C. 103(a) rejection do not make up for the deficiencies of McVay. For example, Amo, et al. disclose a method of making spherical granules of a water-soluble azo compound. The water-soluble azo compound is dispersed in a water-insoluble solvent and then a water and/or a hydrophilic solvent dissolving the water-soluble azo compound is added with stirring to granulate the water-soluble azo compound in the solution.

Amo, et al. do not disclose or suggest a use for the granules of the water-soluble azo compound. Therefore, a person of ordinary skill in the art would have no reason to combine the disclosure of Amo, et al. with that of McVay or Duffield, et al.

Duffield, et al. disclose rigid, water-soluble containers. In particular, Duffield, et al. is directed towards an injection-molded capsule container for delivery of a water-destined ingredient selected from fabric care, surface care, or a dishwashing composition, a detergent, pesticide, biocide, deodorant, dye, pigment, or water-treatment chemical.

Contrary to the claimed invention, Duffield, et al. do not disclose or suggest using the containers to hold azo-initiators. Duffield, et al. only list fabric care, surface care, and a dishwashing composition as possible uses of the containers. Accordingly, there is no reason for a person of ordinary skill in the art to combine Duffield, et al. with references relating azo-initiators such as McVay or Amo, et al.

Long-felt need in the art

There has been a long-felt need for a means of delivering azo-initiators to a polymerization system without exposing workers to hazardous azo-initiators that are toxic to the skin, eyes, and lungs. For at least 23 years prior to the priority date of the present invention, water-soluble containers and water-soluble azo-initiators have been known. However, prior to

the present invention, it had never been suggested in the art to place a water-soluble azo-initiator in a water-soluble container.

Therefore, the long-felt need in the art for a polymerization initiator systems such as the one in the claimed invention is evidence of non-obviousness.

In view of the foregoing, applicant respectfully requests that the 35 U.S.C. 103(a) rejection over McVay in view of Amo, et al. and Duffield, et al. be reconsidered and withdrawn.

Applicant respectfully submits that the application is now in proper form for allowance, which action is earnestly solicited. If resolution of any remaining issue is required prior to allowance of the application, it is respectfully requested that the examiner contact applicant's attorney at the telephone number provided below.

Respectfully submitted,

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